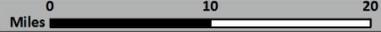




-  Tribal Lands
-  Drainage Boundary



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 ASP - Geographic Data Services  
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## Kootenai River Drainage

### **Physical Description**

The Kootenai River drainage is in the northwest corner of Montana and is entirely in Lincoln County. It originates in southeastern British Columbia (B.C.), flows south and west through Montana, and northwest through Idaho, then returns to Canada where it flows through Kootenay Lake and joins the Columbia River at Castlegar, B.C. At the Idaho border near Leonia (lowest point in Montana 1,820 feet above sea level), it drains approximately 13,000 square miles with an average discharge of 16,100 cfs. There are 110 lakes or reservoirs in the Kootenai River drainage, totaling 34,869 surface acres.

Libby Dam was completed in 1972 and created Lake Koocanusa which inundated and eliminated 109 miles of the mainstem Kootenai River and 40 miles of critical, low-gradient tributary habitat in Montana and B.C. At full pool, Lake Koocanusa covers 46,500 acres total of which there are 28,723 acres (about 62%) in Montana. A selective withdrawal system was installed on Libby Dam to manage the temperature of water releases from the dam. The operation of Libby Dam for flood control and power production has changed the natural seasonal and daily flow, temperature, and productivity regimes in the Kootenai River. Mean flows during spring runoff have declined 50% and wintertime flows have increased substantially. Average wintertime water temperatures have increased by about 7 degrees F resulting in the river remaining virtually ice free. The 104 miles of Kootenai River in Montana can be divided into two distinct reaches, the 54-mile section downstream of Libby Dam (Lower Kootenai) and the 50-mile section upstream of Libby Dam (Lake Koocanusa).

The approximately 50-mile section of Kootenai River upstream of Libby Dam is completely inundated by Lake Koocanusa. Tributaries drain the Whitefish, Salish, and Purcell mountain ranges and Southern Continental Range and enter the Kootenai River in B.C. or Lake Koocanusa directly or through larger tributaries. The majority of the streams that flow into Lake Koocanusa provide fishing for trout. Lake Koocanusa and its tributaries (most notably the Tobacco River and Big Creek), mountain lakes (including in and around the Ten Lakes Scenic Area), lowland lakes (including the Eureka Chain Lakes) and Dickey and Murphy lakes all provide recreational fishing opportunities.

The 54-mile section of Kootenai River downstream of Libby Dam is characterized by a complex combination of riffles, pools, and slow moving, broad, meandering river sections. About 28 miles downstream of Libby Dam, the river cascades 30 feet over the main Kootenai Falls and then drops another 60 feet through smaller falls in less than a mile. Downstream of Kootenai Falls the river flows through a canyon which forms pools as deep as 100 feet. From there, the river flows similarly to the river upstream of Kootenai Falls but with deeper, slower moving runs to the Montana/Idaho border.

Numerous tributaries drain the Cabinet, Selkirk, and Purcell mountain ranges and enter the Kootenai River directly or through larger tributaries. Due to past glaciations, some Kootenai River tributaries are blocked by falls near their mouths, and recruitment of fish to and from those tributaries is limited. The majority of waters in the Kootenai River drainage produce angling for trout. The Kootenai River and its tributaries, mountain lakes (including those in the Cabinet Mountains Wilderness and Northwest Peaks), lowland lakes (including portions of the Thompson Chain of Lakes), Bull, Spar, Island and Kilbrennan lakes and Fisher River, Yaak River and Libby Creek all provide recreational fishing opportunities.

## Fisheries Management

The Kootenai River and all its tributaries are managed as wild trout fisheries with emphasis on natural reproduction. The basin is also the focus of native fish recovery efforts. There are over 60 mountain and valley lakes and reservoirs in the Kootenai drainage that consistently provide more than 100,000 angler days of fishing for trout, salmon, and other species of fish. Native fish species in the Kootenai River drainage include bull trout, white sturgeon, Columbia River redband trout (redband trout), westslope cutthroat trout, burbot, kokanee salmon, mountain whitefish, pygmy whitefish, northern pikeminnow, peamouth chub, longnose dace, redband shiner, longnose sucker, largescale sucker, torrent sculpin, and Columbia slimy sculpin. Non-native fish species inhabiting the Kootenai drainage include brook trout, brown trout, rainbow trout, lake trout, northern pike, smallmouth bass, largemouth bass, yellow perch, black crappie, pumpkinseeds, bluegill, and black bullhead.

Lake Koocanusa is a popular fishery for kokanee salmon, rainbow trout, bull trout, and occasional burbot. The kokanee are often abundant but small, providing harvest opportunities for anglers and forage for predatory fish. The rainbow trout fishery is comprised primarily of wild fish, some of which reach trophy sizes greater than 10-pounds. Gerrard rainbow trout, a long-lived piscivorous strain, are produced at Murray Springs Trout Hatchery and released as sterile fish into Lake Koocanusa to supplement the trophy fishery. Burbot numbers expanded in Lake Koocanusa when the reservoir was initially formed. As the reservoir aged, numbers of burbot and fishing pressure waned although there is still a small stable population. An adfluvial bull trout population was established with the creation of the reservoir. Some bull trout in this population spawn in Grave Creek, but the vast majority of spawning and rearing takes place in B.C. tributaries, primarily the Wigwam River.

In 2004, the U.S. Fish & Wildlife Service (USFWS) authorized limited sport fishing for bull trout on Lake Koocanusa as requested by FWP after the fishery was deemed to have reached recovery goals. This activity was intended to benefit bull trout by testing the effects of restoring recreational fishing. In addition, permitting angling for bull trout increased public support for management of a stable bull trout population in Lake Koocanusa. The USFWS permit conditions include a bull trout permit and catch card system, angler surveys, and the development of educational information pertaining to the reestablished fishery.

A review of the history of the Lake Koocanusa bull trout fishery since 2004 indicated several trends as the program matured. Angler interest, effort, and estimated bull trout catch and harvest all declined through time. These declines are likely the result of the novelty of the fishery decreasing and more restrictive harvest limits in recent years, suggesting harvest is a significant motivation for participation.

The bull trout population in Lake Koocanusa is closely monitored. In addition to the catch card information, data from redd counts, gillnet surveys, and tributary juvenile bull trout abundance estimates inform an adaptive management approach where bull trout harvest limits are proactively adjusted based on gathered information. Even after limited harvest was established in 2004, indices of bull trout abundance remain stable at levels. This stability is a testament to the adaptive management approach where potential impacts of angling pressure are mitigated through harvest regulations, while still allowing a limited recreational fishery for bull trout.

The Kootenai River below Libby Dam provides a unique opportunity for anglers to target wild rainbow trout, some of which reach trophy proportions. These fish commonly exceed 25-inches, a size that

pushes the upper limits of possibilities in most of Montana's other premiere rainbow trout rivers. Every year, anglers catch wild rainbow trout greater than 30-inches and 15-pounds in the Kootenai River below Libby Dam. Twenty-plus pound fish are possible, as the Montana state record rainbow trout (33 pounds) was caught here in 1997.

A dense population of adult bull trout also reside in the tailwater. These individuals also grow to large sizes. Both the trophy rainbow trout and the bull trout thrive on kokanee salmon from Lake Koocanusa that are entrained through Libby Dam. These high-calorie prey items are often killed or impaired from passage through the turbines and provide an easy meal for tailrace trout large enough to take advantage of them.

FWP has placed highly restrictive size and bag limits for rainbow trout on this section of the Kootenai River to maximize the potential and the perpetuity of the trophy rainbow trout fishery. Currently, the rainbow trout limit is 1 daily and in possession, 28-inch minimum length from Libby Dam downstream approximately 3.5 miles to the Fisher River confluence. A fishing closure on this section from March 1 to May 31 was created to protect spawning rainbow trout, but also serves to protect bull trout during that time.

From the Fisher River confluence downstream to the Idaho border, the mainstem Kootenai River is managed as a wild trout fishery with special regulations aimed at protecting spawning size rainbow trout while still allowing harvest. Bull trout are found throughout the drainage, with fluvial populations spawning in the major tributaries of the Fisher River, Libby, Pipe, and Quartz creeks upstream of Kootenai Falls and Callahan and O'Brien creeks downstream of the falls. An isolated bull trout population exists in Bull Lake, separated from the main Kootenai River by waterfalls on Lake Creek. This population is now imperiled due to illegal introductions of northern pike, smallmouth bass, and black crappie into Bull Lake. Special seasonal fishing closures are in place on Keeler Creek and portions of Lake Creek to reduce bycatch and illegal harvest of migrating bull trout.

Burbot are native to the Kootenai River drainage. Since the creation of Libby Dam, the downstream population has decreased substantially from historic levels. Over-fishing and lack of successful reproduction were believed to be the main reasons for the population decline. This is likely caused by alteration of the natural flow regime for flood control and power production, and the changes to the river ecosystem in terms of flow, substrate, temperature and nutrients. Elimination of former sloughs and backwaters from decades of diking (in Idaho) are also suspected of contributing to their decline. The Kootenai Tribe of Idaho (KTOI) created a new hatchery near the confluence of Moyie River and Kootenai River in Idaho. Part of that hatchery's function is culture and production of burbot for conservation of the lower Kootenai River population. Early indications are that many of these hatchery burbot are moving upstream, consequently enhancing burbot abundance in the Montana reach.

The Kootenai downstream of Kootenai Falls is also home to a genetically distinct population of white sturgeon. Harvest for white sturgeon was closed in Montana in 1979 for conservation purposes based on low abundance of white sturgeon. The larger Kootenai River white sturgeon population in the United States appeared to be declining in the 1960s and the Kootenai population was listed as endangered under the Endangered Species Act in 1994 due to a combination of factors including low levels of natural recruitment, a declining wild adult population and habitat loss/alteration. Comanagers and collaborators including the Idaho Department of Fish and Game, FWP, the KTOI, and the British Columbia Ministry of Forests, Lands and Natural Resource Operations have been and are currently contributing to ongoing

recovery efforts including a conservation aquaculture program, habitat and nutrient mitigation efforts, and evaluation efforts of various actions. Results of these efforts are shared and results are applied in an adaptive management framework. Annual monitoring in Montana is primarily conducted to update the status of the species in Montana and information is also used in larger evaluations of white sturgeon throughout the Kootenai/Kootenay River and Kootenay Lake system. Reported metrics include estimates of catch-per-unit-effort, abundance, apparent survival and capture probability, composition of wild and hatchery sturgeon, growth, condition, length-at-age, movement and spawning potential. Results from annual surveys are reported annually to the USFWS and partners.

Brown trout were illegally introduced and first discovered in Lake Creek in 1995 but are now found in the Kootenai River downstream of Kootenai Falls. FWP instituted a no limit harvest in Lake Creek and the Kootenai River downstream of Kootenai Falls. Two brown trout have been captured by anglers immediately downstream of Libby Dam, prompting a mandatory catch, kill and report regulation for brown trout between Libby Dam and Kootenai Falls.

Mountain whitefish are a native salmonid found in the Kootenai basin's larger rivers and creeks. Non-native brook trout are present throughout the drainage. Kokanee salmon also enter the Kootenai River from entrainment through Libby Dam or upstream migration from Kootenay Lake, B.C. as far upriver as Kootenai Falls. Non-native lake trout, northern pike, smallmouth bass, largemouth bass, and yellow perch of unknown origins have been very occasionally encountered in the Kootenai River.

Westslope cutthroat trout were likely the most widely distributed fish species throughout the Montana portion of the Kootenai River watershed. Hybridization with non-native species including rainbow trout and Yellowstone cutthroat trout has been identified as a leading cause of decline for westslope cutthroat trout in the Kootenai watershed, and once extensive hybridization occurs, the trend is not likely to reverse without management intervention.

Redband trout (Montana's only native rainbow trout) are only found in the Kootenai River drainage in the mainstem Kootenai River downstream of Libby Dam and in some tributaries (primarily in the Yaak and Fisher rivers and Libby and Callahan creeks). Hatchery rainbow trout were widely introduced throughout the drainage beginning before the turn of the last century. Genetics analysis indicates that much of the original distribution of unaltered redband trout is lost and remaining populations are rare due to historic stocking of coastal strains of rainbow trout. Hybridization with introduced coastal strain rainbow trout is a leading factor that has contributed to the declines of redband trout in the Kootenai watershed, and once extensive hybridization occurs, the trend is not likely to reverse without management intervention. Though several tributaries to the Kootenai River have relatively low levels of hybridization (less than five percent), the only truly secure genetically unaltered strain of redband trout inhabit Wolf Creek and East Fork Yaak River, where barrier falls stop access of hybridizing species.

## **Habitat**

The Kootenai River basin has annual precipitation ranging from 20 to 80-inches and snowfall from 40 to 300-inches. Except during spring runoff when the river and reservoir experience increased turbidity, suspended sediment in the river is generally minimal, making the Kootenai River and Lake Koocanusa clear with good visibility for most of the year.

Roughly 90% of the drainage is forested, and logging and associated road building has occurred in nearly all the lower-elevation valleys and on many higher-elevation ridges. The combination of legacy of land management, road construction, and some large flood events have altered many streams and led to over-widened and braided sections. Streams in this condition tend to have mobile substrates that are less hospitable for insects and therefore numbers of salmonids.

Coal and hard rock mining are prominent activities in the Kootenai basin, particularly along the Elk and St. Mary rivers in B.C. and in the northern Cabinet Mountains. Recently proposed additional open-pit coal mining has led the Montana Department of Environmental Quality (DEQ) to list Lake Koocanusa as threatened due to selenium. FWP representatives have been long-standing participants in the collaborative multi-agency working groups to address the Elk River coal mining pollution. Tracking fish tissue contaminant concentrations through routine ongoing monitoring has provided valuable insight into the scope and scale of the threat these contaminants pose to human consumption and fish population health. FWP anticipates that these collaborative efforts will likely continue. The Sullivan Mine at Kimberley, B.C. has been the largest metal producer in the basin, and in 1981 it was one of the two largest lead-zinc mines in the world. From 1981 to 2010, a large copper and silver mine and chemical floatation mill was operated in the Lake Creek watershed south of Troy, MT. Another copper and silver mine (Montanore) is proposed in the headwaters of the Libby Creek drainage.

Dam operations represent the greatest impact to habitat in the Kootenai River because of the biological effects associated with unnatural flow fluctuations, reversed hydrograph (high flows in winter, low flows in summer), altered productivity, and the potential for gas supersaturation problems arising from spilling excess water. Water temperatures and seasonal thermal regimes of the Kootenai River have been unnaturally altered by the construction of Libby Dam. The water temperature of the Kootenai River downstream of Libby Dam is warmer during the winter and cooler during the summer compared to pre-dam conditions. The selective withdrawal system which was installed on Libby Dam to control water temperatures has provided for the release of more natural water temperatures from late spring through fall; however, the system does not operate during winter months due to isothermal conditions within the reservoir. Libby Dam also interrupts the flow of essential nutrients that support the aquatic food web downstream of the dam. This topic is discussed in additional detail in the Special Management Issues section below.

Dam operations also impact fish populations in Lake Koocanusa. After an initial surge of productivity when the reservoir was first formed, there has been a slow decline in productivity toward oligotrophy (very low productivity). Between 1977 and 2000, reservoir drawdowns averaged 111 feet, and although reservoir drawdowns have averaged 69 feet since 2000, they still affect all biological trophic levels and influence the probability of subsequent refill during spring runoff. The reservoir has shifted from a westslope cutthroat trout and mountain whitefish dominated system to one dominated by northern pikeminnow, peamouth chub, and kokanee salmon. FWP's fisheries staff routinely makes recommendations for hydropower operations to the U.S. Army Corps of Engineers (USACOE) to improve growth and survival for fish and the habitat that supports the food webs in the Kootenai River and Lake Koocanusa.

## **Special Management Issues**

### ***Libby Dam Operations***

Construction of Libby Dam on the Kootenai River, the second largest tributary to the Columbia River, began in 1966 and was completed in 1973 under the Columbia River Treaty of 1964. Completion of the dam created the 73-square mile Kootenai Reservoir which inundated 109 miles of the mainstem Kootenai River in the United States and Canada, and 40 miles of tributary streams in the U.S. that provided habitat for spawning, juvenile rearing, and migratory passage for resident fish. In addition to the inundation of these productive habitats, the construction and operation of Libby Dam profoundly and permanently altered perhaps the most important ecological aquatic attributes of the Kootenai River, including flow and temperature patterns, nutrient transport, and mainstem fish passage. These impacts from the construction of Libby Dam had immediate detrimental consequences for Montana's aquatic resources and the operation of Libby Dam continues to impede fish passage, reduce productivity, promote conditions that favor non-native fish communities, and reduce the distribution and abundance of focal species within the Kootenai drainage.

The Libby Dam Mitigation Project is an important part of the Northwest Power and Conservation Council's fish and wildlife program that is funded through the Bonneville Power Administration. The main goal of the Libby Dam Mitigation Project is to mitigate losses to fisheries, aquatic, and riparian habitats caused by construction and operation of Libby Dam. This requires a balanced approach of applied research to understand current limiting factors and causal mechanisms associated with Libby Dam operations, on the ground conservation and restoration projects to partially mitigate hydropower system impacts, and effectiveness monitoring to adaptively manage and evaluate progress toward meeting project goals. The [Kootenai Subbasin Plan](#) provides the framework for FWP to prioritize mitigation work directed at addressing three primary limiting factors: 1) impoundment and hydropower operations; 2) physical habitat alterations; and 3) non-native species introductions.

Mitigation efforts, both on-site (operational) and off-site, are intended to conserve and protect important fisheries in the Kootenai watershed and the habitats that support them. Total mitigation for the construction and operation of Libby Dam is not possible due to the large changes in ecosystem function impacted by the construction of Libby Dam and the ongoing impacts due to contemporary operation of the dam. FWP's mitigation project uses watershed-based habitat enhancement, fish passage improvements, modified dam operations and offsite fisheries habitat improvement measures to partially offset fisheries and habitat losses due to Libby Dam.

### ***Kootenai River Nutrients***

Libby Dam and its reservoir traps and retains 80% to 93% of the total phosphorus. Although the reservoir also traps about 13% to 34% of the available nitrogen, nitrogen levels in Lake Kootenai and the Kootenai River remain relatively high due to elevated levels of nitrates associated with coal mining activities in the B.C. portion of the watershed. The overall result of the scarcity of phosphorus downstream of Libby Dam has resulted in a decrease in productivity and an overall impairment of multiple levels of the Kootenai River food web downstream of Libby Dam. Low phosphorus and stable river flow downstream of Libby Dam during the winter months contribute to the proliferation of algal diatoms. Under these circumstances algal diatoms produce excessive stalk material that blankets the river bottom and precludes the formation of green algae. These conditions favor midges which replace mayflies and caddisflies in the benthic insect community that are preferred trout food items. This shift in

the benthic invertebrate community limits the availability of mayflies and caddisflies to trout resulting in lower trout growth rates.

A nutrient addition effort could be an effective mitigation strategy to improve biological conditions and the productivity of multiple trophic levels of aquatic life in the Kootenai River. FWP's mitigation program is currently evaluating the feasibility of implementing a multi-year nutrient addition experiment on the Kootenai River downstream of Libby Dam to assess the efficacy of a longer-term mitigation effort to compensate for the lost productivity caused by sequestration of phosphorus upstream of the dam. The experiment will require authorization from DEQ and discussions are currently ongoing. The proposed experiment would include a robust monitoring program to evaluate the efficacy of the experimental nutrient addition on multiple trophic levels throughout the Montana portion of the Kootenai River. Evaluations would include measuring algal response which represents the lowest level of the aquatic food web, aquatic insect response, and changes in rainbow trout growth rates.

### ***Physical Habitat Improvements***

The impacts of the construction and operation of Libby Dam have been substantial and cannot be fully mitigated for completely through efforts on the mainstem Kootenai River alone. As part of the [Libby Dam Mitigation Project portfolio](#), stream restoration efforts were previously completed on several key tributaries within the Montana portion of the Kootenai River drainage including Grave, Therriault, Young, Libby, Dunn, and O'Brien creeks. Efforts were generally designed to improve the quantity and quality of spawning and rearing habitat for redband trout, westslope cutthroat trout, and bull trout to mitigate for impacts of Libby Dam. Monitoring results show that the physical changes that resulted from these restoration efforts have been sustained through time and that metrics of habitat quantity and quality remain substantially higher several years after project completion than existed prior to restoration. Over the past several decades, the Libby Dam Mitigation Project also collaborated with water users to install fish screens on several irrigation diversions to reduce wild trout losses. The habitat improvement projects have been successful, but periodic maintenance efforts may be required to ensure continued ecological function of these restoration projects. Maintenance efforts are expected to be relatively minor and may include minor fisheries habitat enhancement or riparian vegetation maintenance to increase the long-term sustainability and project success.

### ***Non-native Species Interactions***

Over the past several decades, FWP has completed extensive and widespread genetic sampling within the Kootenai River drainage, consisting of 374 sampling events from 183 waterbodies. The primary objective of this sampling was to determine the current distribution of [westslope cutthroat trout](#) and [redband trout](#) for comparison to estimated historic distributions for both species. However, in the most recent assessment, FWP estimated that nonhybridized (>90% genetically unaltered) westslope cutthroat trout currently occupy only 15% of the historically occupied habitat in the Montana portion of the Kootenai watershed. Redband trout have also substantially declined, with nonhybridized redband trout (>90% genetically unaltered) currently occupy 20.6% of the historically occupied habitat within the Montana portion of the Kootenai basin. Therefore, FWP has prioritized restoration of westslope cutthroat trout and redband trout within their historic range because they exist in relatively few locations within the Kootenai subbasin and most remaining populations are isolated. The general approach to restore westslope cutthroat trout and redband trout within historically occupied watersheds uses the most recent genetic sampling and distribution mapping to identify potential restoration opportunities and donor populations to restore populations. This work will prioritize

restoration efforts for lakes and or larger stream reaches in relatively pristine habitats located upstream of natural migration barriers for two important reasons. The first is that non-native species that currently inhabit headwater lakes and streams serve as a perpetual source of hybridizing individuals to downstream populations. The second reason is that restoring native populations upstream of natural fish barriers prevents recolonization of non-native species (i.e., primarily coastal rainbow trout and Yellowstone cutthroat trout). This strategy naturally relegates the work predominantly to headwater systems that will be relatively resilient to climate change. FWP will evaluate the efficacy of several management alternatives including stocking and suppression to remove hybridizing species. The alternatives for artificial production for redband trout are discussed in the Management Direction for Individual Species section in Part I of this plan.

FWP recently reviewed and interpreted historic stocking records and previous genetic surveys of fish inhabiting the tributaries downstream of the fish bearing lakes located in the Cabinet Mountains and Ten Lakes Scenic Area to infer the likely historic distribution of redband and westslope cutthroat trout. The results of the genetic analysis of these watersheds indicate that Howard, Granite, Double, Wishbone, Minor, Upper and Lower Cedar lakes are located within headwater streams historically inhabited by redband trout. However, the fish community in these lakes are currently dominated by introduced species that contribute to the decline of redband trout within the downstream waters. FWP has identified these waters as opportunities to restore the distribution of redband trout populations and fishing opportunities via the primary management strategy of suppression. FWP is currently working to identify the best suited local donor populations that would be used to reestablish redband trout populations in these lakes as part of the suppression efforts.

The most recent genetic evaluation also indicates that Big and Little Therriault, Upper and Lower Wolverine, Bluebird, Weasel, and Rainbow lakes within the vicinity of the Ten Lakes Scenic Area are located within headwater streams inhabited by westslope cutthroat trout. Review of historic stocking records and recent genetic results from these areas indicate that Yellowstone cutthroat trout were stocked in most of the lakes within the Ten Lakes Scenic area, and the downstream contribution to wild populations of westslope cutthroat trout is still present. The fish currently inhabiting Rainbow Lake are predominantly (>90%) Yellowstone cutthroat trout, but the genetic composition of fish within the other lakes in this area are predominantly (>95%) westslope cutthroat trout. Therefore, FWP will use the management strategy of stocking in all the lakes within the Ten Lakes Scenic Area except Rainbow Lake which FWP will use suppression to restore westslope cutthroat trout and improve fishing opportunities. FWP will use fish from Clarence Creek (Grave Creek tributary), Deep Creek, and McGuire Creek as potential donor populations that would be used to reestablish westslope cutthroat trout populations in Rainbow Lake after suppression efforts are completed.

Several of the lakes within the Cabinet Mountains are located in the headwater of tributaries that are within the historic distribution of westslope cutthroat trout. Most of the lakes including Leigh, Upper and Lower Hanging Valley, Lower Sky, Bramlet, Big and Little Bear, Upper and Lower Geiger, and Baree lakes were likely historically fishless, the outlet streams have natural waterfall barriers that prevent upstream fish movement and were stocked with and are currently dominated by introduced species that contribute to the decline of westslope cutthroat trout within the downstream waters. Therefore, FWP will use the management strategy of suppression in these lakes to restore westslope cutthroat trout and improve fishing opportunities. FWP is currently working to identify the best suited local donor populations that would be used to reestablish westslope cutthroat trout populations in these lakes after suppression efforts are completed.

## ***Burbot Management and Population Augmentation***

Native to the Kootenai drainage, burbot are present upstream of Libby Dam in Lake Koocanusa, as well as downstream in the Kootenai River. Since the creation of Libby Dam, the downstream population of burbot in the Kootenai River had decreased substantially from historic levels. The KTOI created a new hatchery near the confluence of Moyie River and Kootenai River in Idaho. Part of that hatchery's function is the culture and production of burbot for conservation of the lower Kootenai River population. Early indications are that many of these hatchery burbot released downstream in Idaho are moving upstream, consequently enhancing burbot abundance in the Montana reach.

The burbot population in Lake Koocanusa initially fared slightly better following the construction of Libby Dam but has since declined in recent decades. Reservoir drawdown schedules have interrupted critical life history stages especially from hatching to age 1 which has contributed to population declines. Additionally, elevated selenium levels in Lake Koocanusa may negatively impact egg and early life stage development of burbot. Burbot are particularly susceptible due to their benthic habitat use which exposes them to the sediment water interface where selenium is likely settling.

The use of hatchery reared burbot in Lake Koocanusa could improve survival during the first year and contribute to more fish reaching maturity. Offspring produced from hatchery burbot could also improve wild recruitment to adult sizes.

Several lakes are under initial consideration for burbot stocking to serve as a biological control for undesirable fish communities while providing unique trophy angling opportunities for a regionally native species. No lakes have been legally stocked with burbot although presence in Glen, Sophie, and Tetrault lakes has been confirmed. Potential lakes for burbot stocking would be either closed basin or open systems at least intermittently connected to the Kootenai River drainage. Lakes with illegally introduced populations of yellow perch, which without a quality control mechanism can become over abundant and stunted, would be considered. Addition of burbot as a natural predator could reduce illegally introduced perch, create more opportunity for desirable species, and improve the size structure of perch fisheries.

Burbot fisheries could be established through wild fish transfers or from hatchery fish acquired from regional sources. The brood for the KTOI Twin Rivers Hatchery burbot stock originated from Moyie Lake, B.C. and progeny of these fish are currently released into the Idaho portion of the Kootenai River. KTOI also collects burbot from the Kootenai River, and most of these are the products of past stockings. The University of Idaho's Aquaculture Research Institute has also housed individuals from the same genetic lineage as part of ongoing burbot conservation research. Establishment of populations in Montana lakes could serve as a source of burbot for future augmentation efforts.

## ***Lake Koocanusa Bull Trout***

In 2004, the USFWS authorized limited sport fishing for bull trout at Hungry Horse Reservoir, South Fork Flathead River, and Lake Koocanusa as requested by FWP after those fisheries were deemed to have reached recovery goals. The USFWS permit conditions included a bull trout permit and catch card system, an angler survey, and the development of educational information pertaining to these new fisheries.

A review of the history of the Lake Kootenai bull trout fishery indicated several trends as the program matured. Angler interest, effort, and estimated bull trout catch and harvest all declined through time. These declines are likely the result of the novelty of the fishery decreasing and more restrictive harvest limits in more recent years, suggesting harvest is a significant motivation for participation.

The bull trout population in Lake Kootenai is closely monitored. In addition to the catch card information, data from redd counts, gillnet surveys, and tributary juvenile bull trout abundance estimates inform an adaptive management approach where bull trout harvest limits are proactively adjusted based on gathered information. Through the years, FWP has managed the Lake Kootenai bull trout fishery more conservatively than required by the USFWS.

Monitoring the bull trout fishery will continue. By combining indices of bull trout abundance with information regarding angler use, FWP can continue to evaluate relationships between the fishery and the bull trout population. Adaptive harvest management has maintained a limited bull trout sport fishery that will persist as long as monitoring and response efforts remain proactive. The success of this unique fishery helps enhance the understanding of bull trout and encourages stakeholder engagement and informational contributions by the angling public.

### ***Kilbrennan Lake***

Kilbrennan Lake was rehabilitated in 2006 to remove illegally introduced yellow perch, black bullhead, and brook trout. Redband trout housed at Murray Springs Fish Hatchery were used to restock the lake following treatment. Murray Spring Fish Hatchery no longer produces redband trout and the rehabilitation was not completely successful. Black bullhead are currently abundant, brook trout are present in modest numbers, and redband trout are no longer encountered in Kilbrennan Lake. Largemouth bass, illegally introduced about 10 years after the rehabilitation, have now become established in the lake.

FWP is working to identify viable sources of redband trout for conservation purposes. If redband trout become available again, Kilbrennan Lake would be considered for redband trout stocking to provide a recreational fishery. FWP will continue to monitor the fish community in Kilbrennan Lake, and consider options for active suppression of largemouth bass and black bullhead to benefit redband trout and other recreational fisheries.

### ***Kootenai River Tailrace – Trophy Rainbow Trout Fishery***

The Kootenai River below Libby Dam provides a unique opportunity for anglers to target wild rainbow trout, some of which reach trophy proportions. These fish commonly exceed 25-inches, a size that pushes the upper limits of possibilities in most of Montana's other blue-ribbon rainbow trout rivers. Every year, anglers catch wild rainbow trout greater than 30-inches and 15-pounds below Libby Dam. Twenty-plus pound fish are possible, as the Montana state record rainbow trout (33 pounds) was caught here in 1997.

A dense population of adult bull trout also reside in the tailwater. These individuals also grow to large sizes. Both the trophy rainbow trout and the bull trout thrive on kokanee salmon from Lake Kootenai that are entrained through Libby Dam. These high-calorie prey items are often killed or impaired from

passage through the turbines and provide an easy meal for tailrace trout large enough to take advantage of them.

FWP has placed highly restrictive size and bag limits for rainbow trout on this section of the Kootenai River to maximize the potential and the perpetuity of the trophy rainbow trout fishery. Currently, the rainbow trout limit is 1 daily and in possession, 28-inch minimum length from Libby Dam downstream approximately 3.5 miles to the Fisher River confluence. A fishing closure on this section from March 1 to May 31 was created to protect spawning rainbow trout, but also serves to protect bull trout during that time.

### ***Kootenai Drainage Brown Trout***

Brown trout were illegally introduced and first discovered in Lake Creek in 1995 but are now found in the Kootenai River downstream of Kootenai Falls. FWP instituted a no limit harvest in Lake Creek and the Kootenai River downstream of Kootenai Falls. Two brown trout have been captured by anglers immediately downstream of Libby Dam, prompting a mandatory catch, kill and report regulation for brown trout between Libby Dam and Kootenai Falls.

### ***Priority Drought Waters***

The majority of the westslope cutthroat trout populations in the Kootenai River drainage are in upstream tributaries or are moderated by Libby Dam outflows and have not historically met the criteria for angling restrictions. If necessary, these restrictions would be applied to these tributaries if conditions reach levels that negatively impact westslope cutthroat trout or bull trout.

## FISHERIES MANAGEMENT DIRECTION FOR KOOTENAI RIVER DRAINAGE

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
All Kootenai River drainage (see listed waterbodies for exceptions)		Bull trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout. Educate anglers on catch-and-release techniques to reduce bycatch mortality. Continue to work with agencies to improve habitat in core areas.
		Redband trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Maintain current angling opportunity and harvest level. Where feasible, conserve or enhance populations. Where feasible, protect nonhybridized populations and restore genetic integrity to hybridized populations.
		Mountain whitefish (N)	Wild	General	Maintain recreational angling and harvest opportunity.
		Rainbow trout	Wild	General	Maintain recreational angling and harvest opportunity.
		Brook trout	Wild	Suppression	Provide liberal harvest opportunities to benefit native species and other recreational fisheries. Maintain current angling opportunity and harvest level.
Largemouth bass	Wild	Quality	Maintain current angling opportunity and harvest level. Through regulation, enhance opportunities for trophy sizes and juvenile recruitment.		

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Smallmouth bass	Wild	Suppression	Reduce/eliminate illegally introduced populations by liberalizing regulations to benefit native species and other recreational fisheries.
		Northern pike	Wild	General	Provide liberal harvest opportunities to decrease predation on native and recreational fisheries. Maintain current angling opportunity and harvest level.
		Yellow perch	Wild	General	Maintain recreational angling and harvest opportunity.
		Pumpkinseed, Bluegill	Wild	Suppression	Provide liberal harvest opportunities to benefit other recreational fisheries. Maintain current angling and harvest opportunity.
		Black crappie	Wild	Suppression	Provide liberal harvest and if feasible, eliminate populations to benefit other recreational fisheries.
		Black bullhead	Wild	Suppression	Provide liberal harvest and if feasible, eliminate populations to benefit other recreational fisheries.
Lake Koochanusa	46,500 acres total 28,723 acres in Montana	Bull trout (N)	Wild	Conservation/Quality/ Restrictive Regulations	Monitor recreational fishery through catch card/mail-in survey including by-catch by anglers fishing for rainbow trout and during fishing contests. Monitor populations with annual gillnet

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		<p>Rainbow trout</p> <p>Gerrard rainbow trout</p> <p>Kokanee salmon</p> <p>Burbot (N)</p> <p>All other species</p>	<p>Wild</p> <p>Hatchery</p> <p>Wild</p> <p>Wild</p> <p>Wild</p>	<p>Quality</p> <p>Put-Grow-and-Take/Quality</p> <p>Liberal Regulations</p> <p>General</p> <p>Drainage Standard</p>	<p>survey, redd counts, and juvenile population estimates in Grave Creek. Work with B.C. counterparts to establish adequate protection to insure opportunity for angling on both sides of the border.</p> <p>Maintain put-grow-and-take for Gerrards with the same regulation to augment the trophy rainbow fishery. Monitor recreational fishery all year including creel surveys and during derbies that target trophy trout to inform future management options.</p> <p>Manage to provide harvest opportunity for high density age classes. Monitor population using hydroacoustics and gillnetting to confirm species constituency in Montana and B.C. and identify population age/size structure.</p> <p>Monitor population with hoop netting to identify population structure and opportunities to improve length at harvest for angling on both sides of the border. Identify potential for population enhancement through hatchery augmentation in cooperation with other tribal/state/provincial entities.</p> <p>See drainage wide species management at top of table.</p>

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
<p>Habitat needs and activities: In cooperation with DEQ, U.S. Environmental Protection Agency (EPA), B.C., Teck Resources Limited and Environment Canada, monitor lake water, sediment, and fish to determine effects of and opportunities to reduce selenium and nitrogen created as a result of open-pit coal mining in B.C. Identify operations at Libby Dam that improve reservoir productivity and quality angling. Monitor recreational fishery through a catch card/mail-in survey including bycatch by anglers fishing for large rainbow trout and during angler derbies. Monitor populations in Montana with annual gillnet survey and juvenile population estimates in Grave Creek. Work with B.C. counterparts to establish adequate protection to insure opportunity for angling on both sides of the border.</p>					
<p>Tobacco River and tributaries - headwaters downstream to Lake Kocanusa</p> <p>Grave Creek</p> <p>All other tributaries</p>	<p>22.9 miles</p> <p>15.9 miles</p>	<p>Kokanee salmon</p> <p>Westslope cutthroat trout (N), Bull trout (N), Rainbow trout, All other species</p> <p>Bull trout (N)</p> <p>All species</p>	<p>Wild</p> <p>Wild</p> <p>Wild</p> <p>Wild</p>	<p>General</p> <p>Drainage Standard</p> <p>Restrictive Regulations</p> <p>Drainage Standard</p>	<p>Maintain current angling opportunity, snag fishery, and harvest level.</p> <p>See drainage wide species management at top of table.</p> <p>Monitor redd counts and juvenile abundance to inform management direction. Protect spawning population.</p> <p>See drainage wide species management at top of table.</p>
<p>Habitat needs and activities: Water rights are over allocated in Grave Creek; work with irrigators to maintain/improve flows to support native species.</p>					
<p>Dickey Lake</p>	<p>585 acres</p>	<p>Kokanee salmon</p>	<p>Hatchery</p>	<p>Put-Grow-and-Take</p>	<p>Maintain current angling opportunity and harvest level. Continue to monitor population and determine stocking rates that promote potential for larger kokanee.</p>

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Rainbow trout (Gerrard)	Hatchery	Put-Grow-and-Take	Maintain appropriate stocking density to promote trophy angling opportunity and harvest.
		All other species	Wild	Drainage Standard	See drainage wide species management at top of table.
Eureka Chain Lakes: Frank Rock Lost Timber Rock Moran Lake Swisher Lake	149 acres 37 acres 35 acres 31 acres 41 acres 9 acres	Rainbow trout, (Gerrard, Eagle Lake, redband)	Hatchery	Put-Grow-and-Take	Maintain current angling opportunity and harvest level. Do strain evaluation to determine age class success and return to creel. In Lost Lake, promote quality rainbow trout through restrictive regulations.
		Brook trout	Hatchery	Put-Grow-and-Take	Maintain current angling opportunity and harvest level.
Habitat needs and activities: Monitor total alkalinity, dissolved oxygen levels and lake elevations to help determine stocking success.					
Glen Lake	301 acres	Kokanee salmon	Hatchery	Put-Grow-and-Take	Maintain current angling opportunity and harvest level. Continue to monitor population and determine stocking rates that promote opportunity for larger kokanee.
		Burbot	Wild	General	Maintain limited harvest and recreational opportunity. Monitor population to identify population structure and opportunities to improve length at harvest for quality angling through regulation. Identify potential for

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Yellow perch, Bull trout, Brook trout, All other species	Wild	Drainage Standard	population enhancement through hatchery augmentation.  See drainage wide species management at top of table.
Habitat needs and activities: Work with Lincoln County to reduce impacts of shoreline construction. Lake elevations are controlled by Glen Lake irrigation district.					
Ten Lakes Scenic Area Lakes: Big Therriault Little Therriault Weasel Upper Wolverine Lower Wolverine Bat Blue Bird	56 acres 28 acres 20 acres 8 acres 5 acres 5 acres 3 acres	Westslope cutthroat trout (N)	Wild/Hatchery	Put-Grow-and-Take/ General	Maintain current angling opportunity and harvest level. Where practical, enhance populations to conserve or enhance native species. Where feasible, protect nonhybridized populations and restore genetic integrity to hybridized populations. Adjust/eliminate stocking in lakes with natural reproduction.
Rainbow	9 acres	Yellowstone cutthroat trout	Wild	Suppress	Suppress and remove Yellowstone cutthroat trout and repopulate with nonhybridized westslope cutthroat trout (see Special Management Issues).
Tetrault (Carpenter) Lake	96 acres	Rainbow trout (Gerrard, Eagle Lake, redband)  Largemouth bass, Smallmouth bass, Bluegill, All other species	Hatchery  Wild	Put-Grow-and-Take  Drainage Standard	Maintain current angling opportunity and harvest level.  See drainage wide species management at top of table.
Sophie Lake	221 Acres	Rainbow trout (Gerrard, Eagle Lake, redband)	Hatchery	Put-Grow-and-Take	Maintain current angling opportunity and harvest level.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		<p>Kokanee salmon</p> <p>Burbot</p> <p>Northern pike, Yellow perch, Bluegill, All other species</p>	<p>Hatchery</p> <p>Wild</p> <p>Wild</p>	<p>Put-Grow-and-Take</p> <p>General</p> <p>Drainage Standard</p>	<p>When feasible based on hatchery availability, provide opportunity for recreational harvest.</p> <p>Maintain limited harvest and recreational opportunity. Monitor population to identify population structure and opportunities to improve length at harvest for quality angling through regulation. Identify potential for population enhancement through hatchery augmentation.</p> <p>See drainage wide species management at top of table.</p>
<p>Kootenai River - Libby Dam downstream to Fisher River</p>	<p>3.5 miles</p>	<p>Rainbow trout</p> <p>Burbot</p>	<p>Wild</p> <p>Wild</p>	<p>Quality/Restrictive Regulations</p> <p>Conservation/ Restrictive Regulations</p>	<p>Continue to improve fishery through restrictive regulations to promote trophy sizes. Identify limiting factors leading to population changes. Evaluate the efficacy of nutrient addition to improve the fishery and mitigate for nutrients trapped upstream of Libby Dam (see Special Management Issues section).</p> <p>Monitor population in Libby Dam tailrace to identify population structure and assess opportunity for limited harvest.</p>

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Brown trout	Unknown	Suppression	Illegal introduction confirmed by two angler catches. Mandatory catch, kill and report.
		Bull trout (N), Westslope cutthroat trout (N), Mountain whitefish (N), Kokanee salmon, All other species	Wild	Drainage Standard	See drainage wide species management at top of table.
Habitat needs and activities: Identify limiting factors associated with algal diatom and determine if blooms/mats can be reduced to improve fishery. See Special Management Issues.					
Fisher River and tributaries - headwaters to Kootenai River	33.2 miles	Rainbow trout	Wild	General/Suppression	Where practical, maintain current angling opportunity and harvest level. Where feasible, reduce/eliminate hybridized populations to benefit native species.
		Redband trout (N), Westslope cutthroat trout (N), Bull trout (N), Mountain whitefish (N), Brook trout, All other species	Wild	Drainage Standard	See drainage wide species management at top of table.
Habitat needs and activities: Fisher River impacted by road and railroad construction. Investigate methods to improve habitat.					
Happy's Inn Small Lakes: Leon	19 acres	Rainbow trout (redband, Arlee), Westslope cutthroat trout	Hatchery	Put-Grow-and-Take	Maintain current angling opportunity and harvest level. Stock rainbow trout in lakes with illegally introduced yellow

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Bootjack Cibid Topless Cad	12 acres 11 acres 9 acres 4 acres	Yellow perch, Largemouth bass, Pumpkinseed	Wild	Suppression	<p>perch. In Cibid Lake, promote quality rainbow trout through restrictive regulations.</p> <p>Recent illegal introductions. Where feasible, reduce/eliminate populations to benefit put-grow-and-take trout fisheries.</p>
Crystal Lake Lavon Lake	184 acres 17 acres	Kokanee salmon   Rainbow trout (Gerrard, hatchery rainbow trout)   Yellow perch, Largemouth bass, All other species	Hatchery/ Wild   Hatchery   Wild	Put-Grow-and-Take   Put-Grow-and-Take   Drainage Standard	<p>Manage harvest and stocking levels to enhance numbers and sizes. Determine stocking rates that promote opportunity for larger kokanee.</p> <p>Maintain current angling opportunity and harvest level. Continue to monitor population to determine which strain may produce opportunity for larger trout.</p> <p>See drainage wide species management at top of table.</p>
Horseshoe Lake	138 acres	Tiger muskie   Kokanee salmon	Hatchery   Hatchery	Quality/Restrictive Regulations   Put-Grow-and-Take	<p>Through limited stocking, manage for trophy opportunity and to maintain pressure on northern pikeminnow and sucker populations to improve opportunity to establish a limited salmonid fishery.</p> <p>Manage harvest and stocking levels to enhance numbers and sizes. Monitor</p>

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Yellow perch, Smallmouth bass, Pumpkinseed	Wild	Suppression	success of stocking in this high predator system.  Recent illegal introductions. Where feasible, reduce/eliminate populations to benefit put-grow-and-take kokanee fishery.
Loon Lake Little Loon Lake	222 Acres 9 Acres	Redband trout (N), Yellow perch, Northern pike, Largemouth bass, Smallmouth bass, Black crappie, All other species	Wild	Drainage Standard	See drainage wide species management at top of table.
Island Lake	221 Acres	Yellow perch, Largemouth bass, Northern pike, Black crappie	Wild	Drainage Standard	See drainage wide species management at top of table.
Kootenai River and tributaries (Fisher River to Kootenai Falls.)	28.6 Miles	Rainbow trout  Bull trout (N), Westslope cutthroat trout (N), Mountain whitefish (N), All other species	Wild  Wild	Restrictive Regulations  Drainage Standard	Protect spawning size fish while still allowing some harvest.  See drainage wide species management at top of table.
Quartz Creek and tributaries	11.1 miles and tributaries	Bull trout (N)	Wild	Restrictive Regulations	Monitor redd counts and juvenile abundance to inform management direction. Protect spawning population that congregate at tributary mouth.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
All other tributaries		All species	Wild	Drainage Standard	See drainage wide species management at top of table.
Libby Creek and tributaries (headwaters to Kootenai River)	29.2 Miles	Rainbow trout	Wild	General/Suppression	Where practical, maintain current angling opportunity and harvest level. Where feasible reduce/eliminate hybridized populations to benefit native species.
		Bull trout (N), Westslope cutthroat trout (N), Redband trout (N), Mountain whitefish (N), Brook trout, All other species	Wild	Drainage Standard	See drainage wide species management at top of table.
Cabinet Wilderness Lakes: Leigh Upper Cedar Granite Upper Hanging Valley Double Lower Geiger Lower Sky Lower Hanging Valley Minor Lower Cedar Wishbone	129 acres 63 acres 57 acres 53 acres 37 acres 34 acres 23 acres 21 acres 20 acres 19 acres 16 acres	Redband trout (N), Westslope cutthroat trout (N)	Wild/Hatchery	Put-Grow-and-Take/General	Maintain current angling opportunity and harvest level for mountain lake angling opportunity. Where practical, enhance populations. Where feasible, protect nonhybridized populations and restore genetic integrity to hybridized populations applying suppression techniques where feasible and practical. Adjust/eliminate stocking in lakes with adequate natural reproduction.  Maintain angling opportunity and harvest level. Where feasible, reduce/eliminate competing
			Wild	General/Suppression	

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Upper Geiger Barlee Big Bear Bramlet	13 acres 10 acres 9 acres 9 acres				populations to conserve or enhance native species.
Kootenai River and tributaries (Kootenai Falls to Idaho border)	21.7 Miles	Rainbow trout	Wild	Restrictive Regulations	Protect spawning size fish while still allowing some harvest.
		Brown trout	Wild	Suppression	Illegal introduction. Maintain liberal harvest opportunity to benefit native recreational fish.
		Burbot (N)	Wild/Hatchery	General/Conservation	Monitor population status and trend. Identify hatchery contributions from conservation aquaculture stocking efforts in Idaho. Consider reinstating harvest based on population status.
		White sturgeon (N)	Hatchery/Wild	Conservation	Continue closure on fishing for white sturgeon. Collaborate with Idaho and B.C. to assess population status and trend.
		Kokanee salmon	Wild	General	Maintain current angling opportunity, snag fishery, and harvest level.
		Bull trout (N), Westslope cutthroat trout (N), Mountain whitefish (N), All other species	Wild	Drainage Standard	See drainage wide species management at top of table.
Lake Creek	22.9 miles	Bull trout (N)	Wild	Restrictive Regulations	Protect migrating spawning population.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Keeler Creek and tributaries	8.3 miles plus tributaries	Brown trout	Wild	Suppression	Illegal introduction. Maintain liberal harvest opportunity to benefit native and other recreational fisheries.
		All other species		Drainage Standard	See drainage wide species management at top of table.
		Bull trout (N)		Restrictive Regulations	Monitor redd counts and juvenile abundance to inform management direction. Protect spawning population.
		All other species		Drainage Standard	See drainage wide species management at top of table.
Yaak River and tributaries (headwaters to Kootenai River)	53.4 miles	Rainbow trout, Brook trout	Wild	General/Suppression	Where practical, maintain current angling opportunity and harvest level. Where feasible, reduce/eliminate populations to conserve or enhance native species.
		Redband trout (N), Westslope cutthroat trout (N), Mountain whitefish (N), All other species	Wild	Drainage Standard	See drainage wide species management at top of table.
Bull Lake	1162 Acres	Kokanee salmon	Wild/Hatchery	Put-Grow-and-Take	Manage harvest and stocking levels to enhance numbers and sizes.
		Northern pike	Wild	Suppression	Promote increased harvest through liberal regulations.
			Wild		

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Bull trout (N), Westslope cutthroat trout (N), Largemouth bass, Smallmouth bass, Yellow perch, All other species		Drainage Standard	See drainage wide species management at top of table.
Spar Lake Little Spar Lake	383 Acres 37 Acres	Lake trout	Wild	General	Maintain current angling opportunity and harvest level. Consider liberalizing limits to reduce numbers to improve size and benefit put-grow-and-take fisheries.
		Westslope cutthroat trout (N), Rainbow trout	Hatchery	Put-Grow-and-Take	Maintain current angling opportunity and harvest level. In Little Spar Lake promote westslope cutthroat trout exclusively. In Spar Lake determine stocking rates and species/strains to best promote return to creel in a lake dominated by lake trout.
		Kokanee salmon	Hatchery	Put-Grow-and-Take	In Spar Lake, manage harvest and stocking levels to enhance numbers and sizes.
Savage Lake	71 acres	Largemouth bass, Yellow perch, Pumpkinseed, Black bullhead	Wild	Drainage standard	See drainage wide species management at top of table.
Grouse Lake	10 Acres	Westslope cutthroat trout	Hatchery	Put-Grow-and-Take	Maintain current angling opportunity and harvest level.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Brook trout	Hatchery	Put-Grow-and-Take	Maintain current angling opportunity and harvest level. Monitor population and stocking rates to provide opportunity for increased size.
Kilbrennan Lake	55 Acres	Redband trout (N)	Hatchery/Wild	Put-Grow-and-Take/ Conservation	Increase angling opportunity and harvest through stocking once a source of redband trout is reestablished. Reduce largemouth bass and black bullhead to benefit recreational trout fisheries.
		Brook trout	Wild	General	If practical, maintain current angling opportunity and harvest level. If feasible, reduce numbers to improve size and benefit the put-grow-and-take and wild redband trout population.
		Black bullhead, Largemouth bass	Wild	Suppression	Illegal introductions. If feasible, reduce/eliminate competing populations to benefit native and other recreational fisheries.
Alvord Lake	53 Acres	Largemouth bass, Yellow perch, Pumpkinseed, Black bullhead	Wild	Drainage Standard	See drainage wide species management at top of table.
Hoskins Lake Vinal Lake Rainbow Lake Tom Poole Lake	35 acres 16 acres 21 acres 7 acres	Westslope cutthroat trout (N)	Hatchery	Put-Grow-and-Take	Maintain current angling opportunity and harvest level.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Northwest Peaks Lakes: Upper Hawkins Burke Lower Hawkins Davis	14 acres 14 acres 7 acres 5 acres	Westslope cutthroat trout (N)  Brook trout	Hatchery/Wild  Wild	Put-Grow-and Take/ General/ Conservation  Suppression	Maintain current angling opportunity and harvest level for mountain lakes. Where practical, enhance populations. Where feasible, protect nonintrogressed populations and restore genetic integrity to introgressed populations. Adjust/eliminate stocking in lakes with adequate natural reproduction.  Where practical, maintain current angling opportunity and harvest level. Where feasible, reduce/eliminate competing populations to benefit native species.
Fish Lakes: South North Middle	16 acres 9 acres 3 acres	Westslope cutthroat trout (N)  Rainbow trout	Hatchery/Wild  Wild/Unknown	Put-Grow-and-Take/General/ Conservation  General	Maintain current angling opportunity and harvest level for mountain lakes. Where practical, enhance populations. Where feasible, protect nonhybridized populations and restore genetic integrity to hybridized populations. Adjust/eliminate stocking in lakes with adequate natural reproduction.  Determine status of recently detected expanding population to inform future management options.
Loon Lake (Pipe Creek)	25.9 acres	Westslope cutthroat trout (N)  Brook trout	Hatchery/Wild  Wild	Put-Grow-and-Take/General/ Conservation  Drainage Standard	Maintain current angling opportunity and harvest level.  See drainage wide species management at top of table.

